

**Muons in roentgenium (Rg)**

Z	A [g/mol]	$\rho$ [g/cm <sup>3</sup> ]	I [eV]	a	$k = m_s$	$x_0$	$x_1$	$\bar{C}$	$\delta_0$
111 (Rg)	[282.1691(7)]	??	1143.0	0.28162	3.0000	0.6672	3.0000	6.6477	0.00
$T$	$p$ [MeV/c]	Ionization	Brems	Pair prod [MeV cm <sup>2</sup> /g]	Photonucl	Total	CSDA range [g/cm <sup>2</sup> ]		
10.0 MeV	$4.704 \times 10^1$	3.505				3.505	$1.703 \times 10^0$		
14.0 MeV	$5.616 \times 10^1$	2.832				2.832	$2.983 \times 10^0$		
20.0 MeV	$6.802 \times 10^1$	2.280				2.280	$5.367 \times 10^0$		
30.0 MeV	$8.509 \times 10^1$	1.819				1.819	$1.034 \times 10^1$		
40.0 MeV	$1.003 \times 10^2$	1.579				1.579	$1.627 \times 10^1$		
80.0 MeV	$1.527 \times 10^2$	1.227				1.228	$4.582 \times 10^1$		
100. MeV	$1.764 \times 10^2$	1.167				1.167	$6.258 \times 10^1$		
140. MeV	$2.218 \times 10^2$	1.111				1.111	$9.786 \times 10^1$		
200. MeV	$2.868 \times 10^2$	1.091				1.091	$1.525 \times 10^2$		
207. MeV	$2.943 \times 10^2$	1.091	0.000			1.091	<i>Minimum ionization</i>		
300. MeV	$3.917 \times 10^2$	1.105	0.000		0.000	1.106	$2.438 \times 10^2$		
400. MeV	$4.945 \times 10^2$	1.133	0.000		0.000	1.134	$3.331 \times 10^2$		
800. MeV	$8.995 \times 10^2$	1.234	0.001		0.000	1.236	$6.699 \times 10^2$		
1.00 GeV	$1.101 \times 10^3$	1.271	0.002		0.000	1.273	$8.293 \times 10^2$		
1.40 GeV	$1.502 \times 10^3$	1.327	0.003		0.000	1.331	$1.136 \times 10^3$		
2.00 GeV	$2.103 \times 10^3$	1.387	0.005	0.000	0.001	1.394	$1.576 \times 10^3$		
3.00 GeV	$3.104 \times 10^3$	1.453	0.009	0.003	0.001	1.466	$2.274 \times 10^3$		
4.00 GeV	$4.104 \times 10^3$	1.497	0.013	0.006	0.001	1.519	$2.944 \times 10^3$		
8.00 GeV	$8.105 \times 10^3$	1.595	0.033	0.025	0.003	1.656	$5.456 \times 10^3$		
10.0 GeV	$1.011 \times 10^4$	1.624	0.044	0.036	0.004	1.708	$6.645 \times 10^3$		
14.0 GeV	$1.411 \times 10^4$	1.664	0.067	0.060	0.005	1.796	$8.927 \times 10^3$		
20.0 GeV	$2.011 \times 10^4$	1.704	0.104	0.099	0.007	1.915	$1.216 \times 10^4$		
30.0 GeV	$3.011 \times 10^4$	1.745	0.170	0.178	0.010	2.105	$1.714 \times 10^4$		
40.0 GeV	$4.011 \times 10^4$	1.773	0.240	0.264	0.014	2.293	$2.169 \times 10^4$		
80.0 GeV	$8.011 \times 10^4$	1.834	0.543	0.648	0.027	3.054	$3.676 \times 10^4$		
100. GeV	$1.001 \times 10^5$	1.853	0.704	0.856	0.033	3.448	$4.292 \times 10^4$		
114. GeV	$1.144 \times 10^5$	1.864	0.820	1.006	0.038	3.729	<i>Muon critical energy</i>		
140. GeV	$1.401 \times 10^5$	1.880	1.033	1.283	0.047	4.245	$5.337 \times 10^4$		
200. GeV	$2.001 \times 10^5$	1.909	1.548	1.962	0.066	5.488	$6.578 \times 10^4$		
300. GeV	$3.001 \times 10^5$	1.942	2.426	3.094	0.099	7.564	$8.124 \times 10^4$		
400. GeV	$4.001 \times 10^5$	1.966	3.333	4.269	0.133	9.701	$9.289 \times 10^4$		
800. GeV	$8.001 \times 10^5$	2.022	7.070	9.084	0.268	18.446	$1.223 \times 10^5$		
1.00 TeV	$1.000 \times 10^6$	2.041	8.988	11.548	0.337	22.915	$1.320 \times 10^5$		
1.40 TeV	$1.400 \times 10^6$	2.069	12.827	16.458	0.477	31.833	$1.468 \times 10^5$		
2.00 TeV	$2.000 \times 10^6$	2.099	18.694	23.952	0.689	45.437	$1.625 \times 10^5$		
3.00 TeV	$3.000 \times 10^6$	2.134	28.479	36.404	1.053	68.073	$1.803 \times 10^5$		
4.00 TeV	$4.000 \times 10^6$	2.159	38.387	48.989	1.423	90.960	$1.930 \times 10^5$		
8.00 TeV	$8.000 \times 10^6$	2.220	78.296	99.562	2.952	183.032	$2.234 \times 10^5$		
10.0 TeV	$1.000 \times 10^7$	2.240	98.391	124.977	3.737	229.348	$2.331 \times 10^5$		
14.0 TeV	$1.400 \times 10^7$	2.271	138.471	175.702	5.347	321.794	$2.478 \times 10^5$		
20.0 TeV	$2.000 \times 10^7$	2.304	198.912	252.116	7.812	461.147	$2.633 \times 10^5$		
30.0 TeV	$3.000 \times 10^7$	2.343	299.628	379.217	12.068	693.259	$2.809 \times 10^5$		
40.0 TeV	$4.000 \times 10^7$	2.371	400.696	506.610	16.423	926.102	$2.933 \times 10^5$		
80.0 TeV	$8.000 \times 10^7$	2.439	804.927	1016.537	34.586	1858.491	$3.232 \times 10^5$		
100. TeV	$1.000 \times 10^8$	2.461	1007.160	1271.730	43.960	2325.314	$3.328 \times 10^5$		